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TI EXTRA-HIGH STRENGTH FINE WIRE AND PRODUCTION THEREOF
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SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
AB PURPOSE: To develop the fine wire which consists of a Cu alloy, has high strength and excellent flexibility and is usable as supporting wires of electronic and electric equipment and apparatus, movable cables of robot equipment and further, reinforcing materials of sporting goods, etc.
CONSTITUTION: This extra-high strength fine wire contains 10 to 20wt.% Mn and 5 to 9wt.% Al, and further, contains 2 to 10wt.% Ni and consists of the balance Cu and unavoidable impurities. Its alloy structure is lamellar in a working direction. This fine wire is produced by the method consisting in dissolving and casting such Cu alloy, then solidifying the alloy at <=200°C/min cooling rate to obtain a lamellar eutectic structure and subjecting the alloy to one time or >=2 times of cold working and heat treatment in combination to obtain the dense lamellar structure elongated in the working direction. The reduction of area in one time of the cold working is specified to >=50% and the heat treatment which follows the cold working is executed for 20 seconds to 6 hours at 400 to 850°C.